

Leif first briefly reported comparison of his ORM analysis with Mei's analysis. They used the same set of vertical orbit data with various dipole correctors fired and beta functions at the locations of the PUEs were derived. The beta function wave pattern agreed very well between the two methods, which is very encouraging.

Fanglei presented the progress in spin tracking. She did spin tracking crossing $36+\nu$ with various vertical tunes (8.97-8.993). It shows structures of snake resonances but does not show polarization plateau yet for tunes higher than 8.99. Ernest suggested to track starting from $G\gamma = 43.5$ (instead of 44.5), where vertical component is maximized. Leif suggested to compare the cases with and without synchrotron motion. Kevin pointed out that if MAD fails to produce stable lattices with a high tune, the lattices MAD generates below that tune is also in question. To determine the spin tracking accuracy, it is also suggested to run the Gaussian distribution with different seed. Fanglei also did simulation near injection with the measured tune path provided by Leif. The energy ramping is still the same as last week (with glitch in the ramp rate). It still shows two polarization losses at $G\gamma = 4.9$ and 5.1 , total of about 10%. She will use smooth ramp rate next. Leif pointed out that rf frequency measurement at low energies can give $G\gamma$ value down to 0.01 accuracy. The corresponding energies of the tune measurement in use are based on frequency measurements only.

Discussion continued on AtR spin matching. Raising extraction energy to $G\gamma = 48.5$ (3 units above 45.5) may not be good for both rings. Waldo already calculated the solenoid needed for AtR spin match in his EPAC paper. Waldo pointed out that if decelerating beam back down to $G\gamma = 45.5$ after fast up ramp through $G\gamma = 45$, magnets are on the different hysteresis curve. Another point he made is that fast ramp rate may not work for snake resonances, since they are not really "crossed".

Haixin